

1 How to teach algebra to kids. Lesson 1: Introducing variables as names

Kids are really smart. They have a great capacity for abstract thought and can be taught some fundamentals of algebra at a young age. First of all, x 's and y 's are scary. It is much better to use common objects and peoples names as variable names. For example, one can start with the equation:

$$\text{George} + \text{George} = 2 \text{ George}.$$

One then can play the following game with your child. After giving some other similar examples, you can ask her/him:

$$\text{What is Martha} + \text{Martha?}$$

After a little bit of practice, your child will say 2 Martha.

Next, one can simply put numbers in front of your variable

$$2 \text{ Apple} + 3 \text{ Apple} = 5 \text{ Apple}.$$

Again, after repeating this with a variety of examples, your child will get the hang of it. If you like, you can also talk about subtraction

$$7 \text{ Orange} - 4 \text{ Orange} = 3 \text{ Orange}.$$

Some other things to try are:

$$\text{Thomas} + \text{Thomas} + \text{Thomas} = 3 \text{ Thomas},$$

If Peach is equal to 1 and Carrot is equal to 3, what is Peach + Carrot?

Notice in this last question we now have two variables. One can ask similar questions with multiplication. The more variety of ways a child sees a concept, such as the introduction of variables as names, the more the idea is reinforced.

Other examples are:

If Watermelon is equal to 5, what is Watermelon + Watermelon?

If Canteloupe is equal to 3, what is 2 Canteloupe + 3 Canteloupe?

If David is 4 and Melissa is 5, what is 2 David + 3 Melissa?